

LISTING OF CLAIMS IN THE APPLICATION

- 1 (original). A process for aromatization of alkanes comprising contacting an alkane having one to four carbon atoms per molecule with a Pt/ZSM-5 catalyst under conditions to convert the alkane to benzene, toluene and xylenes and byproducts of methane and ethane.
- 2 (original). The process of Claim 1 wherein the catalyst has a silicon to aluminum atomic ratio (Si:Al) is greater than 2.
- 3 (original). The process of Claim 2 wherein the silicon to aluminum atomic ratio is in the range from 10 to 200.
- 4 (original). The process of Claim 3 wherein the silicon to aluminum atomic ratio is in the range from 20 to 100.
- 5 (original). The process of Claim 1 wherein the catalyst contains gallium, boron or beryllium substituted for the aluminum.
- 6 (original). The process of Claim 1 wherein the catalyst contains germanium substituted for the silicon.
- 7 (original). The process of Claim 1 wherein platinum is present in the range from 0.05 to 5%.
- 8 (original). The process of Claim 7 wherein platinum is present in the range from 0.1 to 2%.
- 9 (original). The process of Claim 8 wherein platinum is present in the range from 0.2 to 1%.
- 10 (original). The process of Claim 1 wherein the catalyst is bound by oxides of magnesium, aluminum, titanium, zirconium, thorium, silicon, boron or mixtures thereof.
- 11 (original). The process of Claim 1 wherein the catalyst has an amorphous support.

12 (original). The process of Claim 11 wherein the amorphous support is an oxide of aluminum (alumina) or silicon (silica).

13 (original). The process of Claim 1 wherein the chemical formula of the zeolite is represented as:



14 (currently amended). The process of Claim 1 wherein the process is Cyclar-type a dehydrocyclodimerization processing of a C₃ alkane to benzene, toluene and xylenes.

15 (original). The process of Claim 14 wherein the temperature is in the range of from 350°C to 650°C.

16 (original). The process of Claim 14 wherein the pressure is in the range of from 10 to 2000 kPa gauge.

17 (original). The process of Claim 1 wherein the mole fraction ratio of ethane relative to methane is in the range from 2 to 10.